LANDER FIELD OFFICE

The Record of Decision for the Lander Resource Management Plan (RMP) was signed in June 1987 (BLM 1987a). The Lander FO occupies portions of Hot Springs, Fremont, Sweetwater, Natrona, and Carbon counties in central Wyoming. The Lander FO includes approximately 2.5 million acres of surface lands and 2.7 million acres of federal mineral estate.

Environmental Baseline

This section presents a summary of the known wolf presence in the Lander FO and an analysis of the effects of past and ongoing human activities (including Federal, State, tribal, local and private) that may influence wolves and their habitats. One wolf pack has consistently maintained a home range within the FO since 2000, and a second pack has had part of its home range in the FO (**Maps 2-5**). In 2003, there were two pack home ranges mapped at the west end of the Lander FO as circles, indicating that no telemetry data were available and the center of known activity is shown as a circle (**Map 8**). The surface area of wolf packs on BLM land determined by the circles is 3,889 acres; however, this is not a very meaningful measure of the full extent of wolf activity on BLM land. Lone wolves have also been sighted in a number of locations in the Lander FO, including behind Lander on the front range of the Wind Rivers (Breckenridge 2004).

Existing Conservation Measures

The following section presents measures included in the Lander RMP that may directly or indirectly minimize impacts to the wolf.

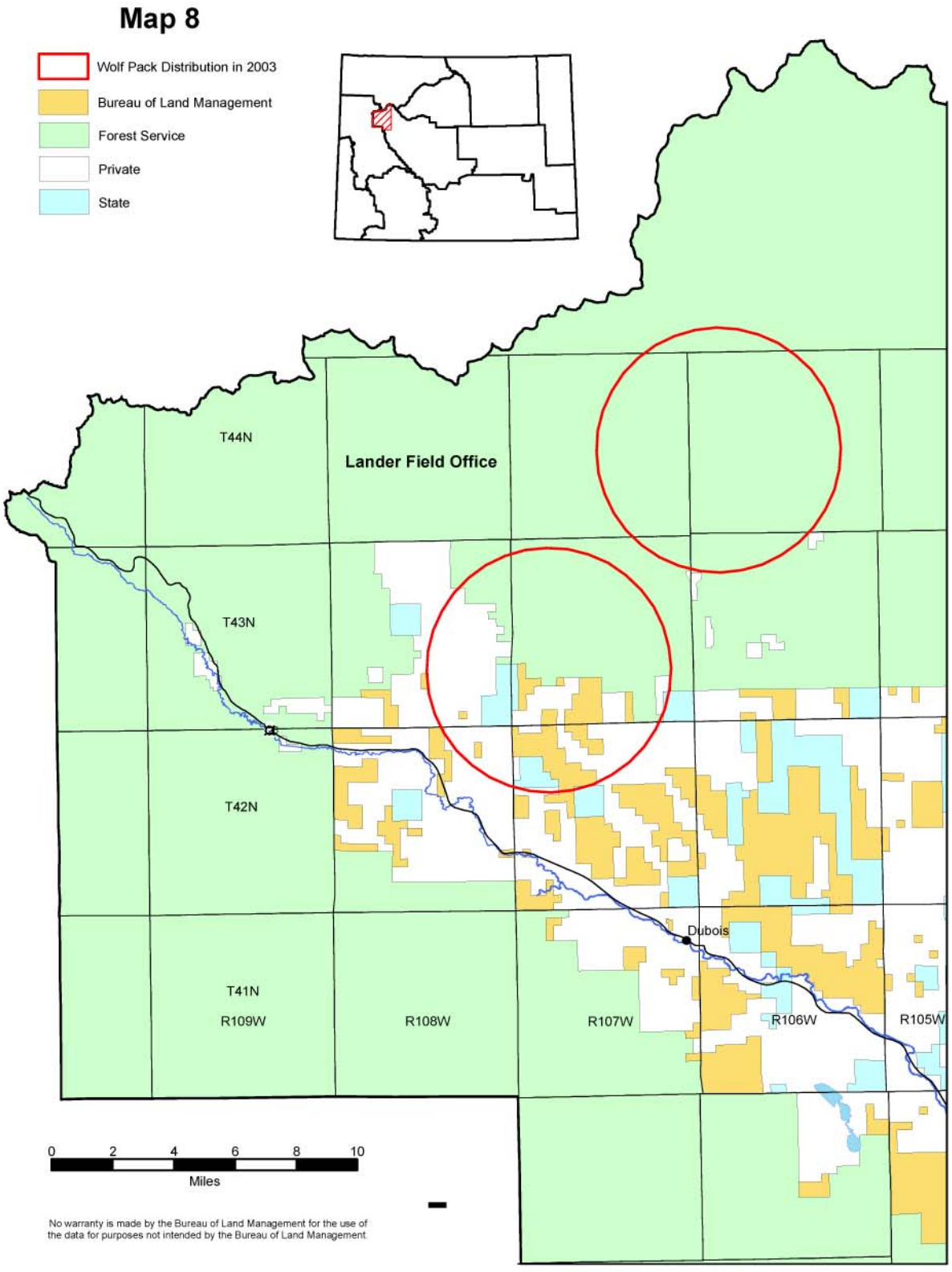
(a) "BLM will continue to work closely with the Wyoming Game and Fish Department in all matters affecting fish and wildlife resources" (BLM 1987a, p. 4).

(b) "ORV management will focus more intensive management on those management units having crucial wildlife values" (BLM 1987a, p. 9).

(c) "New oil and gas leases issued in areas rated as having moderate, low or no potential for the occurrence of oil and gas reserves will include a no-surface-occupancy restriction to protect water quality, fisheries, riparian areas, sage grouse leks, steep slopes, threatened and endangered species, significant cultural sites, sensitive visual resources, and elk and moose crucial winter range. In addition, seasonal restrictions will be applied to the leases to protect important wildlife habitat areas" (BLM 1987a p.27, 40, 43, 45, 50, 60, and 69).

(d) "Crucial wildlife areas will be critically examined before placement of any range improvement projects that can result in increased livestock use in these areas. Some crucial wildlife areas will require special intensive management actions" (BLM 1987a, p. 80).

Map 8. Lander Field Office Wolf Pack Polygons in 2003 (adapted from USFWS et al. 2004, Figure 3).



Analysis of Proposed Management Actions and Effects

The Lander RMP (BLM 1987a) describes each management prescription applied within the FO. Refer to the Lander RMP for a complete description of each management prescription (BLM 1987a).

Energy and Minerals

Management Action

Less than one percent of the slightly more than 2.7 million acres of federal mineral estate within the FO will be closed to leasing. All but 12,000 acres of the open acreage will be managed under a management prescription that will allow for enhanced management of the oil and gas resources by being less restrictive of oil and gas development related to other surface resource values in known geological structures and areas rated as having a high potential for the occurrence of oil and gas. This would be accomplished over the life of this plan as analyses are done to determine where the restrictions can be modified and still avoid significant impacts to other resources. In addition, as new information on the potential occurrence of oil and gas in any given area is obtained or new discoveries of oil and gas reserves are made, the potential rating for the area will be revised to reflect new data. New leases issued in these areas will be issued under the management prescription for that new rating.

Oil and gas leases issued within the FO will be conditioned with stipulations to protect other important resource values. If a particular method of geophysical exploration could be conducted within the constraints necessary to protect other resources, it will be allowed.

All federal lands within the FO will be open to locatable mineral exploration and development unless specifically withdrawn or segregated from appropriation under the mining laws. At the present time, approximately one percent of the federal mineral estate within the FO is closed to locatable mineral exploration and development. The portion of the FO that will be closed to locatable mineral exploration and development will increase by 30,000 acres to approximately two percent of the total federal mineral estate within the FO. The additional acreage proposed for withdrawal will be withdrawn to protect crucial wildlife habitat in the East Fork Elk Winter Range and Whiskey Mountain Bighorn Sheep Winter Range, and the remaining acreage will be scattered throughout the FO in small tracts primarily for the protection of significant cultural and historical resources.

In addition, in an attempt to minimize the acreage withdrawn to protect significant surface resource values, the plan will require that plans of operation be approved for all exploration and mining operations in certain areas designated as ACECs. Notices of intent usually allowed for operations disturbing five acres or less will not be allowed.
Prospecting, exploration and development, and leasing of phosphate resources will be allowed. The phosphate deposits are located in a belt running along the northeast flank of the Wind River Range and extend into three different management units. Phosphate activities within the Red Canyon and Lander Slope Management Units will require stringent stipulations and mitigation measures to protect surface-resource values. The Beaver Creek Management Unit, which contains approximately one-half of the known phosphate resources will remain open to exploration, development, and leasing with fewer restrictions than will be the case in the Red Canyon and Lander Slope Management Units. In the Red Canyon and Lander Slope Management Units, these restrictions will adversely affect the economic recovery of the phosphate resource.

The Lander FO has received APDs in forested land in the northwest portion of the FO (Carroll 2003). No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Construction of roads and pads, and increased vehicle traffic associated with mineral and geology exploration, development, and operation may lead to increases in vehicle collisions with wolves and increased intrusion by humans. Association with humans leads to higher wolf mortality due to easier access for illegal trapping, snaring, and shooting. Wolves avoid areas with high road densities. A road density threshold of 0.45 km/km^2 best classified pack and nonpack areas in one study (Mladenoff et al. 1995, 1999).

Determination

Implementation of minerals management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Fish and Wildlife

Management Actions

Improvement of aquatic and riparian habitats for fish, beaver, moose, and many other animals will receive to priority in the South Pass and Beaver Creek Management Units, high priority in the Green Mountain Management Unit, and special attention in the Red Canyon Management Unit. Aquatic and riparian habitat management plans will be developed for an area encompassing parts of the upper Sweetwater River and Beaver Creek drainages and for the Green Mountain area.

Improvement of important big game ranges will receive high priority. The use of prescribed burning, cutting, thinning, planting, seeding, pitting, herbicide treatment, or other appropriate methods will be employed. Priority areas for action will be the Red Canyon and Lander Slope Management Units for elk and other big game habitat, the Whiskey Mountain unit for bighorn sheep, the southwest part of Beaver Creek unit and the South Pass unit for moose and mule deer, and the Sweetwater Rocks portion of the Gas Hills unit for mule deer. Terrestrial habitat management plans will be developed for the Red Canyon and Lander Slope units, the Sweetwater Rocks, and the south-central part of the Beaver Creek unit.

Development of small-scale, simple, or routine habitat improvement projects and maintenance of useful existing projects will be continued throughout the FO. Such action will be subject to normal interdisciplinary environmental review, and budgetary and management constraints.

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

The implementation of management actions associated with big game habitat management will have positive effects by maintaining, improving, and expanding existing habitat conditions for elk and other big game.

Determination

Implementation of wildlife habitat management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Forest Management

Management Actions

Most of the timber management in the FO will occur in the Green Mountain Management Unit. Small volumes may be offered from South Pass and Dubois units and larger volumes from the Lander Slope unit.

Minor forest products will continue to be sold from timbered areas on a demand basis, depending on resource management objectives. Most fuel wood cutting will occur in the Green Mountain Management Unit.

Sawtimber volumes offered in the Green Mountain Management Unit will be approximately two million board feet (MMBF) per year and minor forest product volumes will be 1.5 to 2 MMBF per year. This will be undertaken for 10 years, or until the majority of the larger timber has been salvaged.

From the Lander Slope unit, approximately 10 MMBF will be offered in a large sale that will take up to five years to harvest. After completion of this sale, logging activity will cease for 10 years, and another sale could be offered. The primary objective of the harvesting program will be to achieve management of the timber resources by salvaging the dead and dying timber and regenerating the harvested areas. However, other resource objectives such as habitat enhancement will be integrated into management plans to enhance these other values.

These will not be sustained-yield harvests, but will be salvage of the dead and dying timber and will eventually create an uneven-aged forest that will have many benefits, including enhancement of wildlife habitat. Individual clear-cut areas, in all cases, will be limited to 25-acre blocks.

Prescribed burning techniques will be included in management plans for conifer and aspen stands to achieve multiple resource objectives. Standard and special provisions will be employed on all sales and burns to achieve management objectives. The size of prescribed burns will be determined on an individual project basis. Regeneration of all harvested and burned areas will be assured, either through natural or artificial regeneration.

Most of the timber acquisition activities are uninitiated by small companies seeking timber for fencing projects or log cabins. There are currently no large-scale timber sales or large clear-cuts planned (Oberlie 2003).

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Forestland management actions occur in coniferous habitats, which are the same areas used by wolves and elk and other big game. However, especially in winter, elk and other big game and wolves tend to concentrate in lower elevation areas (Callaghan 2002). Timber management creates a patchwork pattern of forest stands. These openings enhance grass, forb, and shrub growth favored by elk and other big game, and thus timber management would favor wolves overall. There could be an impact to wolves if specific management actions occur at or near a den or rendezvous site, causing the wolves to abandon that site. Wolves suffer as a consequence of proximity to humans (from illegal snaring, poisoning, and shooting, among others) and new roads created for timber management can bring more people into a pack's territory.

Determination

Implementation of forest management actions, as presented in the Lander RMP is **not likely to jeopardize the continued existence** of the wolf.

Land Ownership Adjustments and Utility Systems

Management Actions

The majority of the 2.5 million areas of public lands in federal ownership will be retained. One hundred seventy-two tracts, encompassing approximately 24,000 acres, meet the basic criteria for disposal. Based upon the analysis in the Lander RMP/EIS, 108 of these tracts, encompassing 12,500 acres, could be considered for future disposal through either sale or exchange.

Major utility and transportation systems will be located to make use existing corridors whenever possible, to provide for cost-efficient routes and to provide for protection of other resource values such as scenery and wildlife. Most of the area will be open for location of major utility systems. However, areas with the most potential conflicts have already been identified as areas to avoid. The avoidance areas will be areas where rights of way may be granted only when no feasible alternative route or designated rights of way corridor is available. These areas include Whiskey Mountain Bighorn Sheep Winter Range, the East Fork Crucial Elk Winter Range, the Dubois Badlands, the Lander Slope, Red Canyon, South Pass, Sweetwater Canyon, the Sweetwater Rocks, and ¼ mile or the visible horizon, whichever is less, on each side of the Oregon/Mormon Pioneer National Historic Trails.

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Power lines, communication towers, pipelines, filming permits, and access roads typically occur within rights of way. The construction of roads within rights of way may open new areas to human activity. These activities bring additional human contact with wolves, one of the greatest sources of mortalities to them.

Land exchanges of forested areas, broad riparian valley, or adjacent shrub steplands could reduce available habitat to wolves. However, current BLM land holdings would likely be evaluated for unique characteristics prior to disposal, including suitability and use by wolves. Lands identified as being used by a wolf pack would not likely be available for disposal. Lands not under BLM jurisdiction that are suitable or occupied wolf habitat may be targeted for acquisition and subsequent management by BLM. Such

acquisitions would provide benefits to wolves that may not be afforded under non-federal ownership.

Corridors are designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Lander RMP (1987a) is **not likely to jeopardize the continued existence** of the wolf.

Recreation Management

Management Action

Management and maintenance will be provided at seven existing recreational sites, including Atlantic City, Big Atlantic Gulch, and Cottonwood campgrounds; Split Rock and Devil's Gate interpretive sites; and Wild Horse Point Overlook and Castle Gardens picnic areas. The Split Rock and Devil's Gate interpretive sites are included in the Oregon/Mormon Pioneer National Historic Recreation Management Plan.

An interpretive marker will be added for the Red Canyon National Landmark overlook. Hazard reductions will be implemented and maintained on Green Mountain and South Pass. Plans for resource protection and maintenance of dispersed recreational opportunities and settings in the South Pass Historic mining area will be provided in a recreation management plan.

BLM will continue to monitor recreational use throughout the FO. Area personnel will supervise recreational use and provide enforcement of recreation-oriented regulations and special designations. Monitoring and use supervision will be accomplished by patrolling high-use areas and contacting users in the field. Special efforts will be made to ensure compliance with the terms of special recreation-use permits, authorizing commercial guide/outfitter services, permits for tours of the Oregon/Mormon Pioneer National Historic Trails, and special designations dealing with recreation such as 14-day camping limit on public lands and off-road vehicle designations. Quotas will be established for commercial hunting camps in the Green Mountain, Lander Slope, Red Canyon, and Whiskey Mountain Management Units.

No specific requirements or guidelines that are applicable to wolf mitigation are included in the RMP for this resource.

Effects Analysis

Recreational areas are ones that humans frequent. In YNP, there has been some concern because people have fed wolves on several occasions, which could lead to a wolf bite and the subsequent necessity to eliminate the animal. However, this has occurred only occasionally, and in an area of high wolf concentration (Halfpenny 2004). Recreation areas that occur in good elk and other big game habitat may be used as access points for illegal trapping, shooting, and/or snaring of wolves. These areas also may be used for wolf viewing, which would not likely have effects of wolves and could deter illegal activities harmful to wolves.

Determination

Implementation of recreation resource management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Off-Road Vehicles (ORVs)

Management Actions

Existing ORV designations completed in 1981 on one-half of the FO will be continued. Designations will be completed on the remaining areas of public lands. ORV management will focus more intensive management on those management units having crucial wildlife values, significant visual resources, high watershed sensitivity, and outstanding natural character. Intensive management will limit ORV use to designated roads and vehicle routes and impose seasonal closures (from approximately December through June) on areas or roads where vehicle use is totally incompatible with other resource values. ORV use in the remainder of the FO will be limited to existing roads and vehicle routes, except for the performance of necessary tasks. Examples include picking up big game roadkills, repairing range improvements, managing livestock, mineral activities where surface disturbance does not total more than five acres.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

In areas designated as "closed" or "restricted," suitable foraging and denning habitats will likely receive little or no impacts from ORV use. In other areas, where ORV use is limited to existing trails, these definitions are sometimes loosely interpreted by the user group and new roads may be created as well as deepening of unofficial roads. Sometimes these roads become very abundant in some areas, fragmenting vegetation and reducing cover for elk and other prey. Increased access for humans may be a source of increased mortality for wolves by shooting, snaring, and trapping.

Determination

Implementation of ORV management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Cultural and Natural History Management

Management Action

Important resources include the Oregon/Mormon Pioneer National Historic Trails and associated sites, South Pass Historic Mining Area, Castle Gardens, Beaver Rim, Red Canyon National Natural Landmark, and the Warm Springs Canyon flume, natural bridge, and geyser will receive enhanced protection.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Actions associated with cultural resource management may detrimentally affect wolf behavior by causing wolves to avoid or abandon areas where management actions are implemented. These potential impacts are dependent upon several factors including the number of people involved with each field effort, the time of year, duration of field activities, use of heavy machinery versus hand tools, and type of wolf habitat affected. Surface disturbing activities associated with cultural resource investigations can vary in size and degree of disturbance. These projects may require the use of hand tools, power tools, or heavy machinery. Denning and rendezvous sites are the most sensitive habitat elements for wolves, as these are often used repeatedly over the years and are relatively limited across the landscape. Disturbance and destruction of denning habitats is possible, however, the likelihood is extremely low.

Determination

Implementation of cultural resource management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Fire Management

Management Action

Approximately 2 percent of the lands administered by the BLM in the Lander FO will be under full fire suppression, with no equipment restrictions. Full fire suppression management has the objective of suppressing all wildfires as quickly as possible with all available resources. Approximately 60 percent of the lands administered by the BLM will have full suppression of wildfires with limited or restricted use of heavy equipment. This does not preclude the use of heavy equipment, such as bulldozers, but does limit their use on initial attack and requires fire authorities to analyze a fire situation critically before committing heavy equipment to a fire. Approximately 38 percent of the public lands in the FO will be under limited suppression of wildfires. There will be no initial attack on the fire and an observer will monitor a wildfire to determine if management objectives are met. Suppression of wildfire will occur when the fire (a) exceeds or has the potential to exceed the size specified in a predetermined plan, (b) threatens private property, (c) threatens man-made structures, or (d) threatens human life. Prescribed burns will be allowed in all management units.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Fire management actions, particularly actions associated with wildfire suppression and prescribed fire, whether planned or unplanned, have the potential to occur in habitats occupied by wolves. Fire exclusion alters the natural mosaic of successional stages that promote open habitats and mixed shrublands favored by elk and other big game. This limits the function of fire in perpetuating vegetation conditions conducive to promoting elk and other big game forage.

Prescribed burns have typically been conducted to promote elk and other big game foraging areas by opening up forests and enhancing development of mixed shrubs. This would be beneficial to wolves by improving habitat for wolf prey. Prescribed fires in the vicinity of den sites could cause wolves to abandon the den site. This event is relatively unlikely.

Determination

Implementation of fire management actions, as presented in the Lander RMP (1987a) is **not likely to jeopardize the continued existence** of the wolf.

Access Management

Management Action

Access roads no longer needed would be rehabilitated, as outlined in the RMP. Negotiations with private landowners concerning BLM access easements will be proposed for areas where public or administrative access will be needed.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Development of new and expansion of existing access to lands administered by BLM may be in the form of corridors designated and managed to accommodate power lines, communication towers, pipelines, and roads. Roads can be a source of increased human activity, which can be a source of illegal snares, trapping, and shooting of wolves, and in mortality to resulting from collisions. The degree of these impacts is correlated with traffic volume and speed, and road width.

Determination

Implementation of land resource management actions, as provided in the Lander RMP (1987a) is **not likely to jeopardize the continued existence** of the wolf.

Soils, Water, and Air Management

Management Action

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management of soil, water, and air resources is not expected to detrimentally impact wolves, their denning sites, or their prey. Implementation of soil resource management actions may maintain or improve the condition of some habitats and therefore may result in beneficial effects to wolves and their prey.

Determination

Implementation of soil, water, and air resource management actions, as presented in the Lander RMP (1987a), **is not likely to jeopardize the continued existence** of the wolf.

Livestock Grazing (and Wild Horse) Management

Management Action

The Lander FO has two grazing study areas: Green Mountain and Gas Hills. Rangeland program summaries (RPSs) for these study areas are included in the RMP. There are 291 allotments in the Lander FO. Category M allotments comprise 29 percent of the allotments and 27 percent of the acreage in the FO. Category C allotments comprise 28 percent of the allotments and 4 percent of the acreage in the FO. Category I allotments comprise 43 percent of the allotments and 69 percent of the acreage in the FO.

Management decisions affecting grazing use will be made when monitoring data are sufficient to support those decisions. They may include changing livestock numbers, periods of use, or a combination of both. Monitoring will be a continuing process to assure that any changes in grazing use accomplish the objectives. If monitoring studies indicate a need to further modify periods of use, livestock numbers, class of livestock, or grazing systems, these adjustments will be made after consultation with the affected livestock operators and any other affected parties.

Wild horse herd management plans will be developed in Category I Allotments that will specify necessary measures to maintain a healthy, viable herd that is consistent with multiple-use objectives for the allotment. The 1979 population level of wild horses will be set as the maximum level for an interim population level. Wild horses will be monitored, along with the habitat, to allow further adjustments as necessary to maintain viable herds and satisfactory range condition. As funding allows, horse numbers will be reduced with roundup expected every 5 years. All horses will be removed from the East Beaver Allotment number 1801. Appropriate Management Levels were established in the RMP for the Environmental Assessments for the Evaluation of Wild Horse Herd Areas completed in 1993 and 1994. The upper and lower AMLs are 50-100 for Dishpan Butte Herd; 60-100 for Conant Creek Herd; 50-86 for Rock Creek Mountain Herd; 160-250 for Muskrat Basin Herd; 60-82 for Antelope Hills/Cyclone Rim Herd; 65-100 for Crooks Mountain Herd; and 170-300 for Green Mountain Herd.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Domestic livestock grazing and wild horse management in riparian areas alters the structure and composition of aspen and riparian shrubs that also are used by moose and elk. Cattle grazing and wild horse grazing in broad floodplains and high-elevation meadows can compete with elk and other big game.

Determination

Implementation of livestock grazing management and wild horse management actions, as presented in the Lander RMP (1987a), are **not likely to jeopardize the continued existence** of the wolf.

Wilderness Management

Management Action

Three management units in the Lander FO are wilderness study areas (WSAs). These units encompass six WSAs totaling 48,000 acres and include Sweetwater Canyon, Sweetwater Rocks (four WSAs), and

Cooper Mountain.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with wilderness management will not result in detrimental impacts to wolf behavior or habitat. These actions will result in positive effect to wolves by limiting harassment and disturbance to suitable denning, travel, and foraging areas.

Determination

Implementation of the wilderness management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Areas of Critical Environmental Concern

Management Action

Approximately 117,000 acres, representing 4.7 percent of the Lander FO will be designated as areas of critical environmental concern (ACECs) and will require intensive management of all activities. The following areas will be designated ACEC in the Lander FO:

Lander Slope Management Unit (25,000 acres of federal surface)
Red Canyon Management Unit (15,000 acres of federal surface)
Whiskey Mountain Management Unit (4,000 acres of federal surface)
East Fork Management Unit (1,000 acres of federal surface)
Dubois Badlands Management Unit (5,000 acres of federal surface)
Majority of the South Pass Management Unit (12,000 acres of federal surface)
Portion of Green Mountain Management Unit (18,000 acres of federal surface)
Beaver Creek Management Unit (7,000 acres of federal surface)

Significant sites and segments along the Oregon/Mormon Pioneer Natural Historic Trails will be designated an ACEC and are located within the Beaver Creek and Gas Hills Management Units. These sites and segments include approximately 22,600 acres of protective corridor on surface lands administered by BLM; approximately 3,100 acres of current withdrawal or proposed withdrawals; and approximately 7,000 acres of trail corridor on split estate lands. There are approximately 780 acres of partially impacted sites and segments on surface lands administered by BLM that are included in the ACEC but will be considered on a case-by-case basis and approximately 450 acres on split estate.

No specific requirements or guidelines that are applicable to wolf mitigation are included for this resource in the RMP.

Effects Analysis

Management actions associated with ACECs are not anticipated to have detrimental impacts to wolf behavior or their habitats. The overall effect of protecting ACECs will result in positive effects to wolves by limiting disturbance to potentially suitable denning, travel, and foraging areas.

Determination

Implementation of the ACEC management actions, as presented in the Lander RMP (1987a), is **not likely to jeopardize the continued existence** of the wolf.

Summary of Determinations

The following is a summary of the effects determinations developed for each of the Lander RMP management actions.

TABLE 5: SUMMARY OF DETERMINATIONS FOR THE LANDER RMP

Resource	Determination
Energy and Minerals	Not likely to jeopardize the continued existence of the species
Fish and Wildlife	Not likely to jeopardize the continued existence of the species
Forest	Not likely to jeopardize the continued existence of the species
Land Ownership and Utilities	Not likely to jeopardize the continued existence of the species
Recreation	Not likely to jeopardize the continued existence of the species
Off-Road Vehicles	Not likely to jeopardize the continued existence of the species
Cultural and Natural History	Not likely to jeopardize the continued existence of the species
Fire	Not likely to jeopardize the continued existence of the species
Access	Not likely to jeopardize the continued existence of the species
Soils, Water and Air	Not likely to jeopardize the continued existence of the species
Livestock Grazing	Not likely to jeopardize the continued existence of the species
Wilderness	Not likely to jeopardize the continued existence of the species
ACECs	Not likely to jeopardize the continued existence of the species

Cumulative Effects

Cumulative effects include future State, tribal, local, or private actions that are reasonably certain to occur in the Lander FO. Potential effects that could affect wolves or their habitats in the Lander FO include the following:

- Subdivision development along rivers (especially along the Wind River near Dubois) that results in loss of elk and other big game habitat and increased human presence
- Sand and gravel operations along river corridors that reduce elk and other big game habitat

In addition to the cumulative impacts resulting from the BLM activities described previously, implementation of the Lander RMP could add further impacts to the wolf that may result from current non-federal actions.